

Assignment #4

CS432

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## Problem 1:

Determine if the friendship paradox holds for my Facebook account.\* Compute the mean, standard deviation, and median of the number of friends that my friends have. Create a graph of the number of friends (y-axis) and the friends themselves, sorted by number of friends (y-axis). (The friends don't need to be labeled on the x-axis: just f1, f2, f3, ... fn.) Do include me in the graph and label me accordingly.

## Solution:

The program `readcsv.py` is responsible for the data results of question 1 in

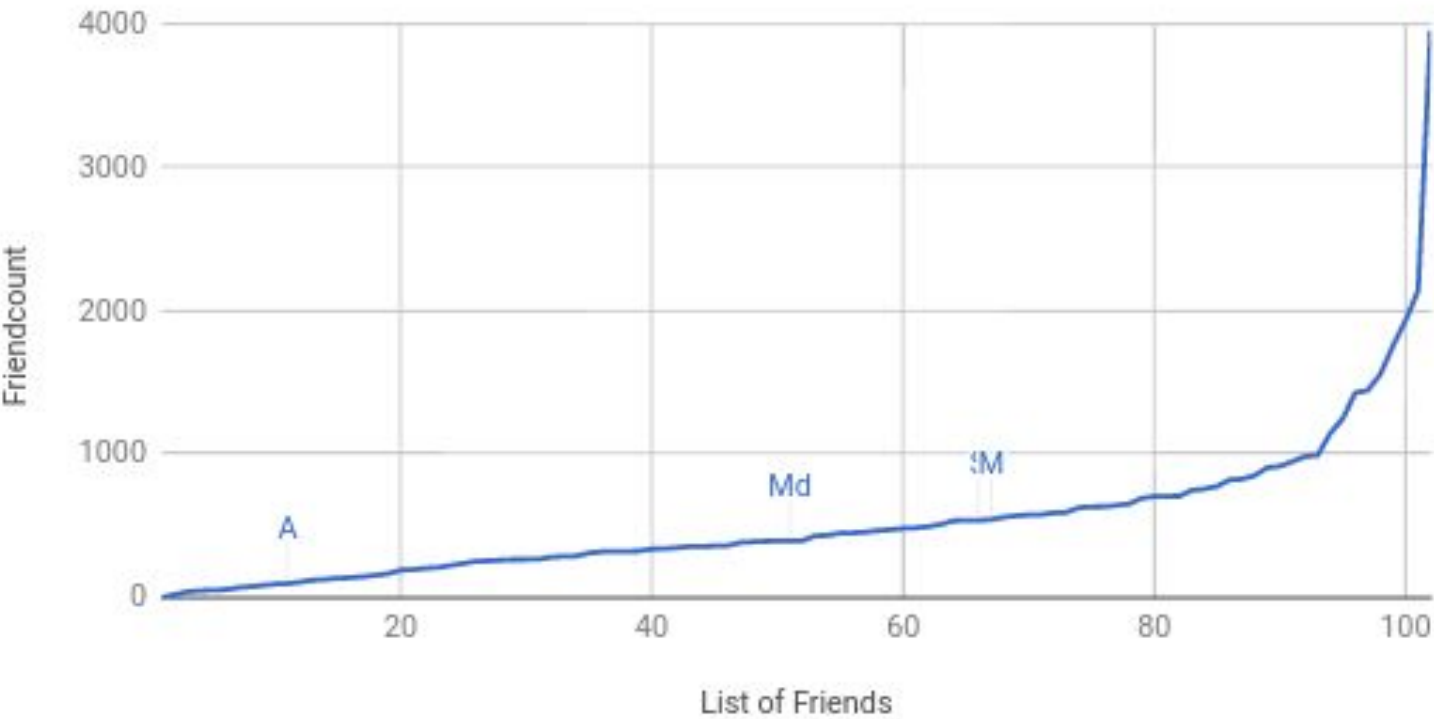
Assignment 4. The library `import pandas` is used to read desired csv files and extract file objects based on predefined dictionary parameters:

```
def readCSV():
    path = "acnwala-friendscount.csv"
    colnames = ["USER", "FRIENDCOUNT"]
    data = pandas.read_csv(path, names=colnames)
    fcount = data.FRIENDCOUNT.tolist()
    users = data.USER.tolist()
    ...
```

The data is stored in two lists for the user id, along with their friend count. The library `import statistics` is equipped with Mean, Median, and Standard Deviation functionalities that handle the computations for the first two questions.

# Facebook List

Legend: A = Anwala(11) Md = Median(51) S = Std Dev(66) M = Mean(67)



## Problem 2:

Determine if the friendship paradox holds for your Twitter account. Since Twitter is a directed graph, use "followers" as value you measure (i.e., "do your followers have more followers than you?").

## Solution:

Much like Assignment 2, `import tweepy` is heavily used for Twitter's data extraction process. A target user is declared with the `api.get_user` method. An API friendship is created, to authenticate a following between the developer and the target user. Fortunately, as the framework has matured over the years, it is no longer essential to define a Listener class when dealing with these specific cases. Instead, a Cursor object is called in a for loop. The desired api method, in this case `followers`, along with the user's screen name define the loops condition. From this point, each followers' name and specific follower count can be accessed in each instance.

...

```
for user in tweepy.Cursor(api.followers,
screen_name="acnwala").items():
    follower = api.get_user(user.screen_name)
    print(user.screen_name, " ", follower.followers_count)
```

...

# Twitter List

Legend: A= Anwala(83) Md= Median(98) M = Mean(178) S = Std Dev(89)

